

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **LISTING OF CLAIMS:**

1. (Currently Amended) A focal surface for an opto-electronic imaging system, comprising:

at least one detector formed of at least one solid state element and configured to record an image, the at least one detector being flexible, at least one of the focal surface and the at least one detector having a curvature for recording a curved image plane;

a detector carrier configured to hold the at least one detector; and

a flexible carrier substrate, the at least one solid state element being flexible, thinned, and connected to the flexible carrier substrate;

wherein the at least one solid state element has a maximum thickness of approximately 20  $\mu\text{m}$ .

2. (Original) The focal surface according to claim 1, wherein the at least one detector includes a thinned silicon wafer, the at least one detector being arranged on the focal surface in a curved manner.

3. (Original) The focal surface according to claim 1, wherein the at least one detector is formed using an auxiliary carrier connected to the at least one solid state element for thinning the at least one solid state element, the auxiliary carrier being at least one of removable and removed after the at least one solid state element is thinned.

Claims 4 and 5. (Canceled).

6. (Original) The focal surface according to claim 1, wherein the at least one detector includes at least one of a CMOS line detector, a CCD line detector, a solid state line detector and a two-dimensional array detector.

7. (Original) The focal surface according to claim 1, further comprising an actuator configured to vary the curvature.

8. (Currently Amended) ~~[[The]]~~ A focal surface according to claim 1 for an opto-electronic imaging system, further comprising:

at least one detector formed of at least one solid state element and configured to record an image, the at least one detector being flexible, at least one of the focal surface and the at least one detector having a curvature for recording a curved image plane;

a detector carrier configured to hold the at least one detector;

a flexible carrier substrate, the at least one solid state element being flexible, thinned, and connected to the flexible carrier substrate; and

a temperature control system configured to maintain the at least one detector within a predefined temperature range, the detector carrier at least one of including at least one channel and being coupled to at least one peltier element.

Claims 9 to 22. (Canceled).

23. (Currently Amended) A detector for image recording, comprising:

a thinned, flexible solid state element; and

a flexible carrier substrate, the solid state element being connected to the flexible carrier substrate;

wherein the detector is flexible; and

wherein the solid state element has at least one of a thickness of approximately 10  $\mu\text{m}$  to 20  $\mu\text{m}$  and a length-to-width ratio of approximately 20 to 60.

Claim 24. (Canceled).

25. (Currently Amended) The detector according to claim ~~[[24]]~~ 23, wherein the length-to-width ratio is approximately 40.

Claims 26 to 31. (Canceled).

32. (Currently Amended) An opto-electronic imaging system, comprising a focal surface, the focal surface including:

at least one detector formed of at least one solid state element and configured to record an image, the at least one detector being flexible, at least one of the focal surface and the at least one detector having a curvature for recording a curved image plane;

a detector carrier configured to hold the at least one detector; and

a flexible carrier substrate, the at least one solid state element being flexible, thinned, and connected to the flexible carrier substrate;

wherein the at least one solid state element has a maximum thickness of approximately 20  $\mu\text{m}$ .

33. (Original) The opto-electronic imaging system according to claim 32, wherein the at least one detector includes a thinned silicon wafer, the at least one detector being arranged on the focal surface in a curved manner.

34. (Original) The opto-electronic imaging system according to claim 32, wherein the at least one detector is formed using an auxiliary carrier connected to the at least one solid state element for thinning the at least one solid state element, the auxiliary carrier being at least one of removable and removed after the at least one solid state element is thinned.

Claims 35 and 36. (Canceled).

37. (Original) The opto-electronic imaging system according to claim 32, wherein the at least one detector includes at least one of a CMOS line detector, a CCD line detector, a solid state line detector and a two-dimensional array detector.

38. (Original) The opto-electronic imaging system according to claim 32, further comprising an actuator configured to vary the curvature.

39. (Currently Amended) [[The]] An opto-electronic imaging system according to claim 32, further comprising:

a focal surface, the focal surface including:

at least one detector formed of at least one solid state element and configured to record an image, the at least one detector being flexible, at least

one of the focal surface and the at least one detector having a curvature for recording a curved image plane;

a detector carrier configured to hold the at least one detector; and

a flexible carrier substrate, the at least one solid state element being flexible, thinned, and connected to the flexible carrier substrate; and

a temperature control system configured to maintain the at least one detector within a predefined temperature range, the detector carrier at least one of including at least one channel and being coupled to at least one peltier element.

40. (Currently Amended) An opto-electronic imaging system, comprising a detector, the detector including:

a thinned, flexible solid state element; and

a flexible carrier substrate, the solid state element being connected to the flexible carrier substrate;

wherein the detector is flexible; and

wherein the solid state element has at least one of a thickness of approximately 10  $\mu\text{m}$  to 20  $\mu\text{m}$  and a length-to-width ratio of approximately 20 to 60.

Claim 41. (Canceled).

42. (Currently Amended) The opto-electronic imaging system according to claim [[41]] 40, wherein the length-to-width ratio is approximately 40.

43. (Currently Amended) An opto-electronic imaging system, comprising:

at least one of a focal surface and a detector;

the focal surface including:

at least one detector formed of at least one solid state element and configured to record an image, the at least one detector being flexible, at least one of the focal surface and the at least one detector having a curvature for recording a curved image plane;

a detector carrier configured to hold the at least one detector; and

a flexible carrier substrate, the at least one solid state element being thinned and connected to the flexible carrier substrate;

the detector including:

a thinned, flexible solid state element; and

a flexible carrier substrate, the solid state element being connected to the flexible carrier substrate;

wherein the detector is flexible;

wherein the at least one solid state element has a maximum thickness of approximately 20  $\mu\text{m}$ ; and

wherein the detector is bonded to the flexible carrier substrate via a first bonding layer, and the flexible carrier substrate is bonded to the detector carrier by a second bonding layer, the detector carrier having a curvature.